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10/551,055	09/26/2005	Banset Nagase	14836-019US1 04P215HY-USP	6307
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EXAMINER				
WIECZOREK, MICHAEL P				
ART UNIT		PAPER NUMBER		
1792				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary

Application No.

10/551,055

Applicant(s)

NAGASE ET AL.

Examiner

Michael Wiczorek

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/08)
Paper No(s)/Mail Date 9/26/2005, 5/4/2007, 2/26/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swidler (U.S. Patent # 6,124,044) in view of Takahashi et al (Japanese Patent # JP11099350).

Swidler teaches an acrylic copolymer based composition that is applied to the exterior surfaces of automobiles that forms a temporary peelable protective layer after it has dried (Abstract). Swidler further teaches that the composition can be applied by any known coating application including roller application (Column 5 Lines 56-66).

Though Swidler teaches applying a protective coating to a workpiece or automobile by roller application it does not teach that the roller is mounted on a roller mechanism which is apart of a trainable coating apparatus nor that the speed of the rolling of the roller is lower when rolling over a curved area than when it rolls over a flat area.

Takahashi et al teaches a robot coating apparatus comprising a roller which coats a liquid like coating agent to the surface of a workpiece (Page 5 Paragraph 0011). The robot coating apparatus comprises a roller 19 mounted on a roller mechanism or manipulator 11 (Abstract and Figure 1). Takashi et al further teaches the apparatus is a trainable coating apparatus and is intended to automate a coating process (Page 3 Paragraph 0002).

At the time the present invention was made it would have been obvious to one of ordinary skill in the art to use a roller mounted on a roller mechanism to coat the surface of a workpiece using a trainable coating apparatus to form a peelable protective layer. It would have been obvious to one of ordinary skill in the art to apply the composition of Swidler using the roll coating apparatus of Takahashi et al because the Swidler composition can be applied by roller application and because the apparatus of Takahashi et al is a robot thus allowing for the coating process to be automated.

As for the limitation that the roller rolls at a lower speed over curved areas than over flat areas, neither Swidler not Takahashi et al teach this. Takahashi et al does teach that since the masking agent or coating composition is supplied at a constant pressure the speed at which the roller rolls determines how much coating is applied to the surface and thus determines the thickness of the coating (Page 14 Paragraphs 0045-0046). Takahashi et al further teaches that the speed of the roller is adjusted in accordance with the surface to be coated so that the roller rolls at an optimal speed for deposition of a uniform coating to the surface (Page 17 Paragraph 0057 and Figures 12 and 13).

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have determined the optimum value of a cause effective variable such

as rolling speed through routine experimentation in the absence of a showing of criticality. *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Thus it would have been obvious to adjust the speed of the roller of Takahashi et al as it coating a curved or grooved work surface in order to apply a uniform coating thickness over these areas.

Furthermore, it would have been obvious to move the roller perpendicular to the direction the groove extended so that the surface of the roller could come into contact with the slope face of the groove. If the roller moved parallel to the direction the groove extended not all of the roller surface would make contact with the surface of the groove and thus multiple applications would be required in order to apply a uniform coating to all portions of the groove surface.

Furthermore, Takahashi et al teaches that the roller 19 moves perpendicularly to the rotation axis of the roller (Page 15 Paragraph 0048). The rotation axis of the roller 19 being the axis that runs longitudinally through the center of the roller. Thus since it would be obvious to move the roller perpendicular to the direction in which the groove extends the rotation axis of the roller would thus be substantially parallel with the direction the groove extends.

As for the limitation that the coating apparatus is disposed near a conveying line neither Swidler nor Takahashi et al teach this limitation but the Examiner takes Official Notice that it is known within the art to dispose near a conveying line used for conveying workpieces a coating apparatus.

At the time the present invention was made it would have been obvious to one of ordinary skill in the art to have a trainable coating apparatus disposed near a conveying line for

conveying a workpiece. By placing a trainable coating apparatus near a conveying line multiple workpieces can be coated by one coating apparatus.

As for claim 2, as was discussed above the coating apparatus of Takahashi et al is a robot and the composition of Swidler is applied to an automobile or vehicle.

As for claims 3 and, Takahashi et al teaches that the roller mechanism or manipulator 11 comprises a swinging mechanism for swinging in the form of a wrist part 17 which is connected to a swing shaft or stay 18 which is connected to the roller 19 (Page 6 Paragraph 0015 and Figure 1). As is shown in Figures 2, 4 through 7 the stay 18 is perpendicular to the said axis or axis of rotation of the roller 19.

Neither Takahashi et al nor Swidler teach that the maximum angle for a tilt angle of a straight line interconnecting said swing shaft and the axis of the roller, with respect to a surface of said workpiece to be coated, is set to an increased value depending on the magnitude of curvature of said surface of said workpiece to be coated. Nor does Takahashi et al or Swidler teach that the tilt angle is set at a value ranging from 24 to 35 degrees for small curvatures or that the tilt angle is set at a value ranging from 25 to 65 degrees for large curvatures.

Takahashi et al teaches that the apparatus is able to operate in a manner where the position and direction of the roller 19 is adjusted during the coating operation (Pages 16-17 Paragraph 0016). Furthermore, Takahashi et al teaches that the apparatus can be operated in such a manner that the direction of the roller does not have to coincide with the normal direction of the work surface (Pages 14-15 Paragraph 0047), thus the roller 19 and stay 18 can be operated at an angle or tilt with the surface to be coated. Because the apparatus of Takahashi is comprised of movable joints, like the wrist part 17, and coats a surface by slide-contacting the roller with the

surface the position of and speed of the apparatus can be adjusted to meet the curvatures of a workpiece surface in order to apply a uniform coating to all surfaces of the workpiece.

At the time the present invention was made it would have been obvious to one having ordinary skill in the art to have determined the optimum values of the relevant process parameters through routine experimentation in the absence of a showing of criticality. *In re Aller*, USPQ 233 (CCPA 1955)

Thus at the time the present invention was made it would have been obvious to one of ordinary skill in the art to adjust the tilt angle of the roller 19 and stay 18 in order to ensure sufficient contact with the surface as well as to maintain an optimal speed required for forming a uniform coating thickness over the surface.

As for claim 5, as was discussed above the curvature of the surface would cause the roller and shaft to swing or tilt, thus forming a tilt angle, in response to the curve in order for the roller to maintain contact with the curved surface. Furthermore as was discussed above it would have been obvious to adjust the speed of the roller to an optimal speed in response to the curvature of a surface. Thus in the absence of criticality it would have been obvious to one of ordinary skill in the art to find optimal roller speed as the tilt angle increased.

As for claim 6, Takahashi et al teaches that the apparatus comprises a coil spring 57 as a pressing means for pressing the roller 19 against the surface of the workpiece (Page 12 Paragraphs 0036-0037 and Figure 7). The specification of the present case defines a pressing means as being a spring (Page 13 Lines 21-22).

As for claim 7, as was discussed in the claim 1 rejection, the chief component of the protective layer forming material is an acrylic copolymer.

In the case of claims 8 and 11, it is rejected for the same reasons as discussed in the claim 1 rejection though neither Swidler nor Takahashi et al teach rolling the roller near an opening edge of an opening in the workpiece at an acute angle to a direction in which the opening edge extends nor that the one end of the roller is pressed against the surface of the workpiece while allowing the other end to float over the opening.

As was discussed in the claim 3 and 4 rejection the apparatus of Takahashi et al is designed in such a way that position and direction of the roller 19 can be adjusted in order to form a uniform coating thickness over the surface of the workpiece regardless of its shape and that it would have obvious to optimize the position of the roller as it coated the various surfaces of the workpiece.

Thus at the time the present invention was made it would have been obvious to adjust the direction and position at which the roller 19 coated an opening edge area of the surface to an optimal direction and position in order to apply a uniform coating thickness to this region.

As for claims 9 and 12 they are rejected on the same grounds as those discussed in the claim 2 rejection.

As for claims 10 and 13 they are rejected on the same grounds as those discussed in the claims 10 rejection.

Conclusion

Claims 1 through 13 have been rejected. No claims have been allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wieczorek whose telephone number is (571)270-5341. The examiner can normally be reached on Monday through Friday; 7:30 AM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571)272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MPW/

/Michael Wieczorek/
Examiner, Art Unit 1792

/Michael Cleveland/
Supervisory Patent Examiner, Art Unit 1792